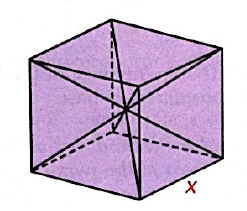
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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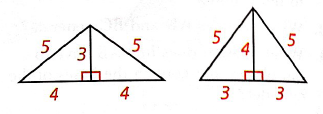
**6.2 Volume Homework:** Applying Cavalieri’s Principle, Cross Sections, and Volume Practice



1. Here is a cube with six congruent pyramids whose apexes are at its center and whose bases are its faces.

Express the following measures in terms of the length *x* of the edges of the cube.

* 1. The volume of the cube.
  2. *V*, the volume of one of the pyramids, based on your answer in part (a).
  3. *B*, the area of the base of one of the pyramids.
  4. *h*, the length of the altitude of one of the pyramids.
  5. *Bh*.
  6. Compare your answers in (b) and (e). What do you notice?

1. Compare the figures at right.
   1. If you look at them as if they are isosceles triangles, how do the triangles compare in area?
   2. If you look at them as if they are side views of right cones, how do the cones compare in volume?

**8.** Find the volume of each and tell which is bigger.

